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MONTANA WEATHER AND CROP SUMMARY

U. S. DEPARTMENT OF AGRICULTURE
Statistical Reporting Service

U. S. DEPARTMENT OF COMMERCE
Weather Bureau
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WEATHER SUMMARY, 6-MONTHS, OCTOBER 1964-MARCH 1965

TEMPERATURE Warmer than seasonal autumn weather prevailed throughout October and early November of 1964. Temperatures were unseasonably warm October 12-14 with most maximums in the 70's and 80's, but Roy 24 NE recorded 92 degrees. The first cold wave of the fall season dropped minimums to below zero in the east portion November 20-21. During the first general period of cold, November 25-29, minimums fell to below zero at nearly all stations. December temperatures averaged unseasonably cold except in the Southwestern Division which had a near normal average. The month was one of the coldest of record in the northern and eastern portions. A cold wave the 15th brought the severest cold of the winter with minimums -20 to -40 degrees by the 16th-17th. West Yellowstone reported -52 degrees the 17th, the winter's coldest. January and February temperatures averaged seasonal or warmer except colder January in the North-Central and Northeastern divisions, and in the two eastern divisions February. March temperatures were seasonal or warmer the first two weeks, but cold waves spreading over the State the 16th and 22nd brought the coldest temperatures ever experienced during March. On a few days, daily average temperatures were 35 degrees below normal at several stations. The December-March period was one of the coldest of record in the Northeastern area.

PRECIPITATION October was dry with only a few southwestern and south-central stations measuring more than usual rainfall. Precipitation during November, December and January averaged above normal all divisions except the North-Central where it averaged near normal in November and below in January. February precipitation was less than seasonal except above the central and southeast portions. Only a few stations, mostly local areas west portion, received more than normal moisture for March.

SEVERE STORMS In southeastern Montana high wind and snow closed roads with 4 to 5 foot drifts November 13-15. Cattlemen and farmers who were unprepared for an unusually early and cold storm had difficulty in feeding and moving livestock to winter ranges. A number of travelers were marooned in the Broadus area. On December 15, a cold wave spread over all the State accompanied by 40 to 50 MPH winds, snow, and -20 to -40 degree temperatures. Roads were blocked, some power and telephone lines broken, and many urban and rural schools closed for a few days. An elderly man perished attempting to get help when his automobile stalled. The southeastern portion which already had a heavy snow cover from November storms was hard hit by the mid-December storm. Snow drifting over highways isolated some farm families and made feeding and care of livestock difficult. Severe weather caused two other deaths during the winter. North of Turner on December 1, a young Canadian woman's car became stuck in drifted snow during a wind and snow storm, and she failed to reach the shelter of a nearby ranch home. An Ekalaka rancher's pickup truck broke through crusted snow the evening of January 7. He succumbed to below zero temperature while walking to a neighboring ranch.

WATER SUPPLY FORECASTS AS OF APRIL 1, 1965

WEST OF THE CONTINENTAL DIVIDE Residual streamflow forecasts for the period April through September, for rivers in western Montana expressed in percentage of the 15 year (1948-1962) average are: Kootenai at Libby, 103; Flathead near Polson, 120; Clark Fork above Missoula, 127; Blackfoot at Bonner, 124; and Bitterroot at mouth, 126. These forecasts are based on an assumption of normal precipitation and temperature distribution through June.

EAST OF THE CONTINENTAL DIVIDE High elevation snow water equivalent is about 35 percent above the April average in the Missouri Basin above Ft. Peck. The following water year flows, October 1964 - September 1965, in percentage of the 15-year average are expected on the following listed streams. The Missouri above Fort Peck Dam: Red Rock near Monida, 132; Big Hole near Melrose, 105; Boulder near Boulder, 132; Jefferson at Sappington, 108; Madison near McAllister, 122; Gallatin at Logan, 113; Missouri at Toston, 118; Sun River Gibson Reservoir inflow, 114; and at Vaughn, 117. The Yellowstone River: at Corwin Springs, 109; Livingston, 110; Billings, 117; Miles City, 113; and at Sidney, 111. The Milk River flow March through September: Western Crossing, 122; at Alberta, 120; and Eastern Crossing, 114. The above river forecasts are based upon April 1 measurements and weather forecasts.

CROP AND LIVESTOCK SUMMARY, 6-MONTHS, OCTOBER 1964-MARCH 1965

HARVEST Harvest of late season crops made rapid progress during favorable October weather. Combining of small grain and flaxseed was virtually completed by the middle of the month except for a few fields at higher elevations. Completion of grain harvest had been delayed earlier by damp, cool weather. Potato digging was finished by the end of October and sugar beet harvest was completed early in November.

SOIL MOISTURE Rainfall was very light during October in most areas. Topsoil moisture remained short until late November when moderate to heavy snow brought near-normal amounts of precipitation. Snowfall during the 6 month period was generous in all districts except the southwestern and south central. A large portion of the State was still snowcovered in late March. The April 1 moisture

(over)

situation was relatively favorable.

WINTER WHEAT Seeding of record large winter wheat acreage made rapid progress last fall under favorable conditions. Operations were completed about the middle of October, slightly ahead of the previous year's progress. Germination was good but seedlings made below average growth because of scant moisture. Wheat condition was rated as fair to good on about December 1. Many stands were uneven and most fields had insufficient growth to permit pasturing. The snows in late November brought much needed moisture and protected fields from winds and other winter hazards. The snow cover lasted well into April in the northern, central and eastern areas. Cold, stormy weather during March maintained dormancy until early April.

RANGE LIVESTOCK Although ranges were dry last fall, cattle and sheep came off summer ranges in generally good to very good condition. Cattle sales lagged because prices were considered unsatisfactory by many ranchers. The peak movement of cattle occurred in November, one month later than usual.

Feeding of range livestock became common with the advent of cold weather and snow during late November. Southeastern Montana was especially hard-hit by heavy, early season snow storms and sub-zero temperatures. Additional heavy snow storms during December with temperatures in the minus thirties over most of the State created severe hardships. In many northern and eastern counties the depth of snow and severe cold, windy weather made feeding and caring for livestock extremely difficult.

Above normal death losses of livestock occurred as a result of exposure and lack of feed. Air lifts of hay to livestock in southeastern counties, and release of feed grains to these and other eastern counties under the U. S. Department of Agriculture Disaster Area designation eased the pressure on feed supplies. These emergency measures held deaths down materially. However, most livestock were in weakened condition and considerable shrinkage occurred. Other side effects included livestock with frozen extremities, sore feet from walking in crusted snow, and the possibility of a reduced calf crop.

The severe winter caused a heavy drain on hay supplies and much more than the usual tonnage was moved from surplus areas to the eastern and northern parts of the State. Barring extensive severe weather after April 1, most ranchers expected to make it through the winter feeding season until new grass becomes available.

The abnormally high prevalence of scours in calves was attributed in part to the changeable and severely cold weather in March. By the end of that month, calving and lambing were nearly one-third finished. Shearing was delayed by the March storms but was 30 percent completed by April 1.

6-Month Total Precipitation, October 1964 - March 1965 (Inclusive)

Station	Precip-itation	6-Month Normal	Station	Precip-itation	6-Month Normal
WESTERN DIVISION					
Big Fork 10 S	12.94		Missoula WBAS	6.96	5.49
Creston	9.22		Ovando 1 SW	10.79	8.15
Deer Lodge 3 W	2.84		Ovando 7 WNW	11.43	
Drummond	5.44	3.74**	Paradise	13.61	
East Anaconda	6.50	4.79	Philipsburg	5.35	5.23
Elliston	4.62		Pleasant Valley	10.59	10.85
Essex	32.56		Polebridge	15.30	
Eureka	8.23		Polson Airport	6.18	6.50
Fortine 1 N	9.00	8.44	Polson Kerr Dam	6.42	
Hamilton	8.77	5.55	Saint Ignatius	7.48	5.79
Haugan	24.45	22.27	Saint Regis	17.64	
Heron 2 NW	23.33	24.10	Seeley Lake	15.54	
Hungry Horse Dam	23.47		Stevensville	9.80	6.14
Kalispell WBAS	10.15	7.33	Sula	8.50	
Kalispell	8.24		Summit	29.95	
Kila	7.91		Superior	12.71	8.78
Libby 1 NE	12.67	11.77	Swan Lake	19.28	
Libby 32 SSE	17.30		Thompson Falls	17.92	12.62
Lindbergh Lake	20.64		Trout Creek	21.72	
Lonepine 1 WNW	7.22	5.89	Troy RS	16.89	
Missoula 2 WNW	6.72	5.29	West Glacier	21.99	16.32
SOUTHWESTERN DIVISION					
Alder 17 S	3.44		Lakeview	10.00	
Belgrade FAA AP	3.56	4.17**	Lima	2.13	2.72
Boulder St. School	4.13		Norris 3 ENE	3.36	
Bozeman Ag. College	5.69	6.48	Norris Madison	5.54	5.84
Bozeman 12 NE	17.35		Pony	4.19	
Butte FAA AP	2.91	3.15	Trident	1.25	
Dillon FAA AP	2.31	2.12**	Twin Bridges	2.26	
Dillon WMCE	2.45	3.22	Virginia City	4.40	4.42
Divide 2 NW	4.88		West Yellowstone	16.88	11.59
Ennis	3.30	2.28	Whitehall	1.59	2.11**
Glen 4 N	1.30		Wisdom	5.48	
Hebgen Dam	20.54	14.53			
Jackson	5.64				

** Estimated normal.

6-Month Total Precipitation, October 1964 - March 1965 (Inclusive)

Station	Precip- itation	6-Month Normal	Station	Precip- itation	6-Month Normal
<u>NORTH CENTRAL DIVISION</u>					
Babb 6 NE	5.02	6.02	Goldbutte 7 N	2.62	
Big Sandy	5.11	2.82	Harlem	5.23	3.35
Blackleaf	5.47		Havre WBAS	3.02	3.28
Brady (Aznoe)	1.65		Joplin 1 N.	2.95	
Browning	7.88	4.64	Loma 1 WNW	3.50	
Chester	3.46		Malta	2.74	3.00
Chinook	4.10	3.27	Saco (Nelson Res.)	1.26	
Choteau	2.65	2.11	Santa Rita 14 N	6.07	
Cleveland 5 ENE	3.94		Shelby AP	1.85	
Conrad	2.96	2.69	Shonkin 7 S	7.82	
Cut Bank FAA AP	2.02	2.41	Simpson 6 NW	1.85	2.04
Del Bonita	4.27		Sweetgrass	2.19	
Dunkirk 14 NNE	3.13	2.73	Telegraph Creek	2.56	2.76
Fairfield	3.05	2.40	Tiber Dam	2.46	
Forks 4 NNE	2.95		Turner	3.31	
Fort Benton	4.53	4.45**	Valier	3.42	2.50
Geraldine	3.06				
Gildford	3.63				
<u>CENTRAL DIVISION</u>					
Augusta	3.46	3.76	Lewistown FAA AP	4.95	4.50
Austin 1 W	7.17		Lincoln RS	12.17	
Barber	2.71		Martinsdale 3 NNW	3.10	3.05**
Canyon Ferry PH	2.29		Melstone	4.00	3.30
Cascade 5 S	3.29	3.82	Moccasin Exp. Sta.	3.65	3.09
Cascade 20 SSE	2.90		Rogers Pass 6 NNE	6.68	
Flat Willow 4 ENE	2.70	3.04	Roundup	1.64	2.71
Gibson Dam	8.69	5.48	Roy 8 NE	5.33	
Grass Range	4.52		Roy 24 NE	2.89	
Grass Range 15 NE	2.61		Ryegate 18 NNW	2.85	
Great Falls WBAS	4.76	4.35	Sun River 5 SW	2.76	
Harlowton	3.34		Townsend	2.03	
Helena WBAS	3.26	3.36	Utica 11 WSW	4.26	
Holter Dam	2.64	3.42	White Sulphur Springs	2.39	7.27
Lennepe 5 SW	6.02		Winifred	3.83	3.70
<u>SOUTH CENTRAL DIVISION</u>					
Ballantine	1.23	3.59	Joliet	3.46	
Belfry 9 SSW	2.26		Kirby 1 S	8.23	
Big Timber	3.85	4.30	Livingston	4.77	4.29
Billings Water Plant	2.85	3.97	Livingston FAA AP	5.00	4.14**
Billings WBAS	4.27	4.50	Melville 4 W	4.28	
Bridger	3.78		Mystic Lake	12.96	8.77
Broadview	3.29		Red Lodge	11.13	6.63
Busby	3.17	3.22	Wilsall	4.39	
Columbus	2.92	3.75	Wilsall 8 ENE	6.62	
Custer	2.66		Wyola	5.40	5.13**
Gardiner	5.11		Yellowstone Park NE	15.70	
Hardin	4.28		Yellowtail Dam	6.04	
Huntley Exp. Sta.	3.16	3.52			
Hysham	3.00				
<u>NORTHEASTERN DIVISION</u>					
Bloomfield 6 E	2.94		Mosby 2 ENE	2.47	
Bredette	2.01		Mosby 18 N	2.19	
Circle	2.30	2.05**	Nohly 3 WNW	4.06	
Cohagen 11 SW	3.46		Opheim 10 N	2.57	
Culbertson	3.43	2.58	Opheim 12 SSE	1.04	
Fort Peck PP	2.27		Redstone	1.52	
Frazer	2.09	3.08	Richey	2.72	
Glasgow WBAS	2.20	3.01	Savage	2.40	2.59
Glendive	3.88	2.82	Scobey	2.06	
Hinsdale	2.36		Sidney	3.36	2.76
Jordan	3.39	2.50	Thoeny 1 E	1.45	
Luttre 4 NNW	1.93	1.97	Vida	3.99	4.43
Medicine Lake 3 SE	3.32	2.42	Westby	2.36	
			Wolf Point 4 ESE	3.35	

** Estimated normal.

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SOUTHEASTERN DIVISION

Albion 1 N	2.67		Lame Deer	3.30	
Biddle 8 SW	4.13		Mildred	2.47	2.80
Birney 2 SE	2.85		Miles City	3.84	
Boyes	3.88		Miles City FAA AP	4.44	3.13
Brandenberg	4.66		Mizpah 4 NNW	2.44	
Broadus	3.49	3.75**	Moorhead 9 NE	3.61	
Carlyle 10 W	3.25		Otter 9 SSW	7.81	
Colstrip	5.08	4.65	Plevna	3.96	2.90
Ekalaka	3.38	2.90	Ridgway 1 S	2.95	
Forsyth 2 E	1.89		Terry	1.55	
Ingomar 11 NE	1.88		Terry 25 NNW	5.04	

** Estimated normal.

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